AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) Noninvasive method for measuring blood components, wherein, with the use of spectrophotometry, light from at least one light source is generated and passed through a tissue located at an application site to at least one photoelectric transducer, and wherein at least one measuring signal of the photoelectric transducer is conducted to an evaluation unit, wherein light signals of a first wavelength are generated at two successive times T_1 and T_2, ~~that~~ light signals of a second wavelength are generated at two successive times T_3 and T_4, ~~that~~ light signals of a third wavelength are generated at two successive times T_5 and T_6, and ~~that~~ this procedure is continued for n pairs of times T_n and T_{n+1} at n wavelengths, wherein the~~. The times~~ T_n . . . T_{n+1} have a well-defined relationship with respect to time, wherein the~~. Time differences between individual times can be small. The~~ evaluation unit considers the incoming signals from the photoelectric transducer

for all n wavelengths according to a predetermined computational model to determine the concentration C of a blood component, wherein a computational combining of light intensities I measured at different times T and with respect to different wavelengths takes place in an arithmetic unit of the evaluation unit, wherein unknown time-related constant measuring parameters are eliminated by a transformation of a division to a subtraction based on a logarithm, and wherein, for determining a hemoglobin concentration as a blood component in a pulsing blood vessel c_{Hbv} for three wavelengths corresponding to the formula:

$$\ln\left(\frac{I_{out}(t_1)}{I_{in}(t_2)}\right)=\left[\sum_{v}\left(\varepsilon_{Hbv}\cdot c_{Hbv}\right)+\varepsilon_X\cdot c_X\right]\cdot\Delta d_A$$

at each instance the measured light intensity I after tissue through-flow I_{out} at the time t_1 and the incident light intensity I_{in} at the time t_2 are determined in addition the concentration of a blood component C_x is considered.

2. (Previously presented) Method in accordance with claim 1, wherein the evaluation unit considers a quotient of the measuring signals.

3. (Previously presented) Method in accordance with claim 1, wherein the logarithms of the measured values are taken.

4. (Currently amended) Method in accordance with claim 3 ~~1~~, wherein a quotient of the logarithmized measured values is considered.

5. (Previously presented) Method in accordance with claim 1, wherein the light is generated by light-emitting diodes.

6. (Previously presented) Method in accordance with claim 1, wherein the incoming signal is received by a photodiode.

7. (Previously presented) Method in accordance with claim 1, wherein at least three different light sources are used.

8. (Previously presented) Method in accordance with claim 1, wherein the total hemoglobin concentration is determined.

9. (Previously presented) Method in accordance with claim 1, wherein the concentration of components that are not associated with hemoglobin is determined.

10. (Previously presented) Method in accordance with claim 1, wherein the concentration of bilirubin is determined.

11. (Previously presented) Method in accordance with claim 1, wherein the concentration of myoglobin is determined.

12. (Previously presented) Method in accordance with claim 1, wherein the concentration of iatrogenically administered dyes is determined.

13. (Currently amended) Device for measuring blood components, which has at least three light sources ~~one light source~~, at least one photoelectric transducer, and at least one evaluation unit connected with the photoelectric transducer, wherein at least three light sources (1, 2, 3) are used, which generate wavelengths that are different from one another, and that the evaluation unit (6) has an arithmetic unit (7) both for taking logarithms and for performing divisions, multiplications, additions, and subtractions, wherein a computational combining of light intensities I measured at different times T and with respect to different wavelengths takes place in the arithmetic unit, wherein unknown time-related constant measuring parameters are eliminated by a transformation of a division to a subtraction based on a logarithm, and wherein, for determining a hemoglobin

concentration as a blood component in a pulsing blood vessel c_{Hbv} for three wavelengths corresponding to the formula:

$$\ln\left(\frac{I_{out}(t_1)}{I_{in}(t_2)}\right)=\left[\sum_v(\varepsilon_{Hbv}\cdot c_{Hbv})+\varepsilon_X\cdot c_X\right]\cdot\Delta d_A$$

at each instance the measured light intensity I after tissue through-flow I_{out} at the time t_1 and the incident light intensity I_{in} at the time t_2 are determined in addition the concentration of a blood component C_x is considered.

14. (Previously presented) Device in accordance with claim 13, wherein at least one of the light sources (1, 2, 3) is realized as a light-emitting diode.

15. (Previously presented) Device in accordance with claim 13, wherein the photoelectric transducer is realized as a photodiode.

16. (Previously presented) Device in accordance with claim 13, wherein each of the light sources (1, 2, 3) generates light in a narrowly defined frequency band.

17. (Currently amended) Device in accordance with claim 13, wherein one of the light sources (1, 2, 3) generates light with a

wavelength of about 660 nm ~~µm~~.

18. (Currently amended) Device in accordance with claim 13, wherein one of the light sources (1, 2, 3) generates light with a wavelength of about 805 nm ~~µm~~.

19. (Currently amended) Device in accordance with claim 13, wherein one of the light sources (1, 2, 3) generates light with a wavelength of about 950 nm ~~µm~~.